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Steven Arita
Senior Coordinator

September 18, 2003

Mr. Bryan Alcorn
California Energy Commission
1516 Ninth Street, MS-25
Sacramento, California 95814

Regarding: WSPA Comments on Revisions to the 2005 California Building Energy Efficiency Standards California Code of Regulations, Title 24, Part 1 and Part 6 (California Energy Code), California Outdoor Lighting Standards.

Dear Mr. Alcorn,

The Western States Petroleum Association (WSPA) is a trade organization representing over thirty companies that explore, produce, transport and market petroleum and petroleum-based products in the six Western States. As you are aware, WSPA member companies operate numerous gas dispensing facilities throughout California that will be subject to the proposed California Energy Commission (CEC) Building Energy Efficiency Standards. Therefore, WSPA and its members have a substantial interest in the proposed standards, particularly as they relate to outdoor lighting requirements for gasoline dispensing facilities (GDF).

WSPA recognizes the energy challenges California faces and understands the importance of saving outdoor lighting energy. The goal of SB 5X when adopted in 2001was to reduce outdoor energy use. However, based on a preliminary review of the proposed lighting standards, WSPA is concerned that the regulations, as proposed at the September 4th Energy Efficienty Committee Hearing, set unrealistic allowances for lighting power and provide a strong disincentive for GDF owners and dealers to upgrade existing lighting systems to more energy efficient systems. In the end there will likely be minimal energy savings and a significant adverse impact on the safety and security of gasoline dispensing and convenience store sites.

It should be noted that according to the Outdoor Lighting Baseline Assessment – Final Report issued November 11, 2002, Gas Station Canopies annually use 29.8 GWh (giga watt-hours) annually. Annual energy usage for all lighting functional use areas is 3,067 GWh. Gas station canopy lighting accounts for less than 1% of the entire annual lighting load. As such, severely

limiting energy use at gas station canopies would have at most, a negligible effect on reducing peak energy demand for the State. Athough our specific comments on the proposed standards are provided below, WSPA believes there are more effective alternatives to achieving energy savings without compromising safety and security issues. Listed below are our comments:

## I. POLICY ISSUES OF CONCERN:

The draft Regulations propose four "Lighting Zones" (LZ1, LZ2, LZ3, LZ4), which are similar to the ambient illumination level zones recommended by two professional illumination societies, the Commission Internationale de l"Elcarirage (CIE) and the Illuminating Engineering Society of North America (IESNA). The difference however, is that the medium and high density lighting zones proposed by the societies that correspond to LZ3 and LZ4 are defined differently. The CEC proposed LZ3 would include both suburban and urban areas as defined by the 2000 Census, but the lighting power density would be restricted to that of a medium density urban zone as proposed by CIE and IENSA. The proposed LZ4, which would correspond to high-density urban area, would be artificially restricted to some percentage (now proposed to be only 20%) of the total area. Implementation of a LZ4 designation to allow the appropriate CIE and IENSA recommended lighting level would require a special action by the local jurisdiction. As such, this approach to regulating lighting power density to achieve illumination levels consistant with the surrounding environment is seriously flawed. This approach will instead create dark areas in otherwise urban lighting environments.

1. **Discourages Voluntary Upgrades**: From a GDF operator's standpoint, there would be no incentive to convert an existing lighting system to a newer more energy efficient system if such a conversion will necessitate providing less light for customers. As a hypothetical example, a GDF owner with a 5700 $ft^2$ canopy with 24 – 400 watt fixtures could upgrade to the same number of more efficient 320 watt pulse start metal halide fixtures, achieving a 25% energy savings while not significantly reducing the lighting level under the canopy. This improvement however would not be permitted however because the new lighting power density would be 1.35 $w/ft^2$, exceeding the requirement for LZ3. The GDF operator would likely not be eligible for LZ4 because it is limited to 20% or less of the area.

   WSPA recommends that the requirements for lighting retrofits be in terms of a minimum percentage of reduction in connected load. This would be an enforceable means of assuring that there is an actual load reduction when upgrades and modifications to lighting systems occur.

2. **Safety and Security Concerns**. Maintaining a well lit gas station and ensuring the safety and security of its customers is an important issue for WSPA members. The proposed Lighting Zones will result in lower levels of light regardless of which Lighting Zone applies, raising serious public safety and security concerns. In 1998, OSHA published Recommendations for Workplace Violence Prevention Programs in Late-Night Retail Establishments. This document identified high-risk establishments and high-risk occupations. As part of recommended prevention strategies, OSHA lists a number of engineering controls that can help reduce violence-related risks or hazards in retail establishments. One of these controls is the maintenance of adequate lighting within and

outside the establishment to make the store less appealing to a potential robber by making detection more likely. Further, the report recommends that the parking area and approach be well lit during nighttime hours of operation so that employees are able to see what is happening outside the store. The proposed lighting standards are not consistent with the OSHA safety recommendations, raising potential public safety concerns. As a result the rules as proposed would prevent station operators from addressing site-specific lighting needs not accounted for by the generalized "Lighting Zones."

3. **The proposed Lighting Zones may raise competitive issues between new and existing GDF's located near each other.** The proposed Lighting Zones may raise competitive issues between new and existing GDF's located near each other. If a new GDF is built, or an existing GDF decides to upgrade/modernize the station, they would be required by the proposed standards to reduce the level of lighting consistent with the particular Lighting Zone in which they are located. The potential exists that consumers will preferentially patronize the well-lit existing station placing the new or remodeled station at a competitive disadvantage. WSPA believes that such a situation could be easily avoided simply by focusing the proposed regulations on the energy used rather than the amount of light allowed.

## II. TECHNICAL ISSUE OF CONCERN:

**Illuminating Engineering Society of North America (IESNA) Report RP-02-01:** In the proposed 2005 Building Energy Efficiency Standards, Page 133, staff has proposed power density values of 0.70, 1.00, 1.25, and 2.00 watts/sq-ft, for the Lighting Zones 1, 2, 3, and 4 respectively. Based on a preliminary technical review of the proposed power density values, these values provide foot-candle values that are less then what the Illuminating Engineering Society of North America (IESNA) specifically recommends. IESNA Report RP-02-01, lists three specific foot-candle recommendations of 20, 30 and 50 foot-candle. Further, the IESNA RP-02-01, specifically defines what each of the 20, 30 and 50 foot-candle values should apply to. WSPA believes the proposed 20, 30 and 50 foot-candle recommendations by the IESNA RP-02-01, should be used as the basis for establishing Outdoor Lighting Standards and at a minimum, staff's proposed Lighting Zone 4 should default to the Urban and Commercial lighting standards (50 ft-candles) as proposed by the IESNA RP-02-01.

WSPA believes staff should be recommending power densities that at a minimum, are consistent with meeting the foot-candle values as proposed by the IESNA RP-02-01, specifically, 20 30 and 50 foot-candle values for GDFs.

## III. WSPA RECOMMENDATIONS:

As mentioned previously, WSPA shares the same goals of saving energy for outdoor lighting. The standards as proposed, only serve to act as a dis-incentive for GDF operators and owners from upgrading to more energy efficient lighting systems and therefore will result in little to no energy savings.

As WSPA testified at the September 4, 2003 the Energy Efficiency Committee public workshop, WSPA believes instead of basing energy use on Lighting Zones, a better alternative exists for gas station owners/operators to achieve actual energy savings without compromising the level of light necessary to ensure safety and security issues.

WSPA recommends the following for consideration:

1. **For New GDFs**:

   WSPA recommends that the proposed lighting zones be revised to more closely adhere to the CIE and IENSA models. Eliminate the requirement for special local jurisdiction action for LZ4 urban areas. Lighting power density requirements based on the CIE and IENSA model would more closely conform to existing ambient illumination levels and the target illumination levels recommended by these organizations.

2. **For Existing GDFs:**

   For Existing GDFs, WSPA recommends eliminating the Lighting Zone concept, and instead structure a program that would provide an incentive for owners/operators of existing GDFs to upgrade to more modern and efficient lighting systems that will result in actual energy savings. A requirement to reduce the connected light load by a specific percent would ensure a more equitable and enforceable standard.

The current proposed Standards will not provide any incentive for existing GDFs to upgrade to new lighting systems, if it will mean that they would be subject to lowering the light level. As mentioned previously, there are new, more energy efficient lighting systems available that will result in energy savings, without compromising safety and security.

Lastly, given the concerns and comments received at last Thursday's Public Workshop as well as our concerns and suggested alternatives, WSPA recommends the CEC hold additional public workshops on the proposed standards prior to formally adopting the standards.

In closing, WSPA appreciates this opportunity to provide these comments on the proposed California Outdoor Lighting Standards and we look forward to working with staff on the proposed standards and our concerns. If you have any questions or need additional information, please feel free to contact me at (916) 498-7753.

Sincerely,

cc: Mr. Gary Flamm - CEC